

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-6, 8 and 9 are pending in the present application with Claims 1 and 8 having been amended by the present amendment.

In the outstanding Office Action, Claims 1-6 and 8 were rejected under 35 U.S.C. § 102(b) as anticipated by Ha et al.; and Claim 9 was rejected under 35 U.S.C. § 103(a) as unpatentable over Yukihiko et al. in view of Gamalielsson et al.

Claims 1-6 and 8 stand rejected under 35 U.S.C. § 102(b) as anticipated by Ha et al. This rejection is respectfully traversed.

Amended Claim 1 is directed to an antenna element including a first antenna formed so as to extend in one direction, a second antenna ($\lambda/2$) extending substantially orthogonal to the extending direction of the first antenna unit and having an electrical length of substantially $(\lambda/2) \times A$ (A is an integer), and being coupled to the first antenna unit. Further, the antenna element includes a feeding point connected to one end of the first antenna unit and in which the other end of the first antenna unit is connected to the second antenna unit. In addition, the first antenna unit and the second antenna unit are attached in consecutive order to the feeding point. Independent Claim 8 has been amended in a similar fashion.

In a nonlimiting example, Figure 1 illustrates a feeding point 12 connected to one end of the first antenna unit 21 and in which the other end of the first antenna unit 21 is connected to the second antenna unit 22. Further, as shown, the first antenna unit 21 and the second antenna unit 22 are attached in consecutive order to the feeding point 12. Thus, because the antenna unit extends substantially orthogonal to the extending direction of the first antenna element, any one of the first and second antenna units can transmit/receive a vertically

polarized wave whereas the other can transmit/receive a horizontally polarized wave.

Accordingly, a vertically polarized wave and a horizontally polarized wave can be transmitted/received regardless of the orientation of the element. Thus, the antenna element has the gain in a conversion mode improved (see page 2, line 32 to page 3, line 6). Further, as shown in Figure 1, the antenna element is compact and reduced in size in which the feeding point 12 is connected to one end of the first antenna unit 21 and the other end of the first antenna unit 21 is connected to the second antenna unit 22.

On the contrary, Ha et al. discloses in Figure 3 a hula loop antenna 410 and a rod antenna 120 in which the first end of the hula loop antenna 410 is connected to a variable capacitor 411 on a printed circuit board 430 and a second end is connected to a ground plate 431 of the printed circuit board 430 (see col. 4, lines 4-6). Thus, as shown, the other end of the hula hoop antenna 410 is not connected to the rod antenna 120, but is connected to a ground plate 431.

Accordingly, it is respectfully submitted independent Claims 1 and 8 and each of the claims depending therefrom patentably define over Ha et al.

Claim 9 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Yukihiko et al. in view of Gamalielsson et al. This rejection is respectfully traversed.

Claim 9 depends on Claim 8, which as discussed above is believed to be allowable. Further, it is respectfully submitted Yukihiko and Gamalielsson et al. also do not teach or suggest the features recited in Claim 8. Accordingly, it is respectfully requested this rejection also be withdrawn.

Application No. 10/030,113
Reply to Office Action of October 8, 2003

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

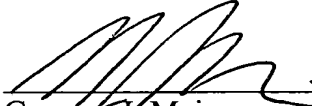
Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/03)
GJM/DAB/law



Gregory J. Maier
Attorney of Record
Registration No. 25,599
David A. Bilodeau
Registration No. 42,325

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